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Amendments to the Claims

The listing of Claims will replace all prior versions, and listings, of claims in the application.

1. (Original) A method for treating a high dielectric layer of a semiconductor device, comprising:

nitriding a high dielectric layer on a silicon substrate, wherein said high dielectric layer comprises a nano laminate comprising a Group 3 metal oxide layer and a layer selected from the group consisting of a hafnium oxide layer and a zirconium oxide layer and wherein an ozone oxide layer is positioned between said high dielectric layer and said silicon substrate; and

post treating the high dielectric layer, ozone oxide layer, and silicon substrate.

- 2. (Original) The method of claim 1, wherein nitriding a high dielectric layer comprises nitriding said high dielectric layer using a nitriding process selected from the group consisting of a nitrogen plasma treatment process, a thermal treatment process in a nitrogen atmosphere, and a thermal treatment process comprising thermally treating the high dielectric layer after forming a nitrogen layer on the high dielectric layer.
- 3. (Original) The method of claim 1, wherein post treating the high dielectric layer, ozone oxide layer, and silicon substrate comprises post treating using a process selected from the group consisting of an oxidation process and an annealing process.
- 4. (Original) The method of claim 1, further comprising forming said high dielectric layer on an ozone oxide layer over a silicon substrate.
- 5. (Original) The method of claim 4, wherein forming said high dielectric layer on an ozone oxide layer over a silicon substrate comprises:

depositing a first layer selected from the group consisting of a hafnium oxide layer and a zirconium oxide layer on the ozone oxide layer; and

depositing a Group 3 metal oxide layer over the first layer.

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6. (Original) The method of claim 5, wherein the Group 3 metal oxide layer is selected from the group consisting of aluminum oxide and yttrium oxide.

7. (Original) The method of claim 5, further comprising depositing an additional layer over the ozone oxide layer, the additional layer selected from the group consisting of a hafnium silicate layer, a zirconium silicate layer, and an aluminum silicate layer.

8. (Original) The method of claim 4, further comprising forming an ozone oxide layer on a silicon substrate.

9. (Original) The method of claim 8, wherein forming said ozone oxide layer on a silicon substrate comprises flushing said silicon substrate with ozone in situ.

10. (Original) The method of claim 8, wherein forming said ozone oxide layer on a silicon substrate comprises forming said ozone oxide layer using atom layer deposition.

11. (Original) The method of claim 8, wherein forming said ozone oxide layer on a silicon substrate comprises forming said ozone oxide layer using chemical vapor deposition.

12. (Original) The method of claim 8, wherein forming said ozone oxide layer on a silicon substrate comprises forming said ozone oxide layer at a temperature between about 320 °C and about 450 °C.

13. (Original) The method of claim 1, wherein said ozone oxide layer comprises an ozone oxide layer having a thickness of about 8 Å or less.

14. - 45 (Canceled).

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46. (New) A method for treating a high dielectric layer of a semiconductor device, comprising:

nitriding a high dielectric layer on a silicon substrate, wherein the high dielectric layer comprises a multi-layered nano laminate formed by forming a hafnium oxide layer or a zirconium oxide layer on the substrate using atomic layer deposition and then forming a Group 3 metal oxide layer thereon using atomic layer deposition, wherein an ozone oxide layer is positioned between the high dielectric layer and the silicon substrate; and post treating the high dielectric layer and silicon substrate.